

HABITAT CHARACTERISTICS OF SOME PASSERINE BIRDS IN WESTERN NORTH AMERICAN TAIGA. By BRINA KESSEL. Fairbanks, Alaska: University of Alaska Press, 1998. x + 117 p., colour and b&w illus., bib., index. Softbound. US\$16.95.

Relatively little research has been conducted on the ecology of birds of the vast subarctic forests that comprise the northern portion of the boreal forest biome. Much of the published information that does exist is in the form of either simple faunal lists or compilations of census data. Thus I welcomed the appearance of this monograph, which represents Brina Kessel's attempt to quantify and summarize species-specific habitat relations for a number of common boreal forest birds of central Alaska. The analysis is based primarily on the results of her research in the upper Susitna River Basin in central Alaska during the early 1980s, although some data from other areas of the state are also included.

The volume begins with a short introduction to taiga ecosystems and the Susitna River Basin, and a brief description of the methods used to census birds and measure habitat characteristics of the study plots. The heart of the monograph consists of two chapters. The first includes detailed qualitative and quantitative habitat descriptions for the 12 Susitna study plots, which range from white spruce (*Picea glauca*) forest and paper birch (*Betula papyrifera*) forest to alpine tundra. Black-and-white photographs illustrate the major habitat types found in the study area. The second chapter summarizes data on avian species abundance and community composition on the 12 study plots. It also presents detailed descriptions of the habitat characteristics of the 15 bird species with sufficient data for analysis. For each species, Kessel calculated coefficients of determination (r^2) for the relationships between predictor (habitat) variables and bird density on each of the 10 ha study plots; these relationships represent the major part of her quantitative analysis. She also presents mean plot values for habitat variables that appeared to be important in determining the distribution of each species. Each account includes some reference to the species' habitat relations in other parts of Alaska, and occasionally in other parts of its range outside of the state. Attractive colour photographs of the 15 common species are included.

Three short chapters and a summary conclude the monograph. The first of these chapters deals with a comparison of thrush (*Catharus*) habitats. The second examines avian communities of floodplain cottonwood (*Populus balsamifera*) forests. These have been infrequently studied in central Alaska, but they support the highest avian densities and species richness of any Alaskan terrestrial habitat. The third short chapter presents two years of data which suggest that spruce forests may provide a habitat for some boreal forest birds that is relatively "stable" compared to other habitats in the study area.

Although the monograph contains valuable information on the habitat relations of boreal forest birds in central

Alaska, I feel that it has several shortcomings that detract from the author's intent, which is to "elucidate the main characteristics of species-specific habitats of Alaska [boreal forest] birds." First, the monograph focuses very heavily on data from the Susitna River area; thus the title, *Habitat Characteristics of Some Forest Birds in Western North American Taiga*, is really misleading. "*Habitat Characteristics of Some Forest Birds in Central Interior Alaska*" might have been a more appropriate title. Second, the analysis could have benefited from the use of a multivariate ordination technique, such as Principal Components Analysis or Canonical Correspondence Analysis, which probably would have been better than the chosen method (cluster analysis) for clearly depicting the habitat relations of the suite of common species. Third, presentation of results of the bivariate analyses is occasionally confusing. Some of these apparently were based on values for the 12 study plots, while others appear to be based on values for "subplots" ($n = 49/10$ ha plot) within each study plot that contained the species. Aside from potential statistical problems involving pseudoreplication (Hurlbert, 1984), I sometimes found it difficult to figure out which coefficients of determination were for the 12 study plot analyses, and which were for the potentially much larger set of values for the subplots. Fourth, I feel that some of Kessel's ideas need to be developed more fully if they are to be considered credible hypotheses. An example is her contention that spruce forests "provide a more stable habitat for some birds." Aside from the fact that the concept of ecological "stability" is a complex one, with at least five different meanings (Pimm, 1991), it would seem futile to base any analysis of stability on only two years of census data, as Kessel does.

Finally, I feel that the monograph would have been more useful if Kessel had referred to more studies of forest birds in other subarctic parts of Alaska, the Yukon, and the Northwest Territories. There are two reasons for this. First, the monograph would have been a convenient venue in which to summarize the literature pertaining to boreal forest birds in Alaska, much as Erskine (1977) did for birds in boreal Canada. Second, one of the most interesting ideas to emerge from Kessel's study is that some species, such as Swainson's Thrush (*Catharus ustulatus*) and Yellow-rumped Warbler (*Dendroica coronata*), undergo apparent habitat shifts in subarctic Alaskan forests, relative to their habitat use in more eastern parts of their ranges. Although Kessel does refer to important publications such as Erskine (1977), a more thorough review of the literature pertaining to North American subarctic forest birds would have enabled the reader to better evaluate the evidence.

Despite these shortcomings, I found the monograph to be an attractively designed, affordable, interesting, and readable account of boreal forest birds in interior Alaska. It provided some valuable data on habitat selection by a number of species, and suggested several interesting directions for future research. The volume has a place in the libraries of professional biologists interested in the

ecology of arctic and subarctic birds and on the bookshelves of nonprofessionals who are intrigued by the natural history of the North.

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THE LADIES, THE GWICH'IN, AND THE RAT: TRAVELS ON THE ATHABASCA, MACKENZIE, RAT, PORCUPINE, AND YUKON RIVERS IN 1926. By CLARA VYVYAN. Edited by I. S. MACLAREN and LISA N. LAFRAMBOISE. Edmonton, Alberta: University of Alberta Press, 1998. ISBN 0-88864-302-0 311 p., maps, b&w illus., bib., notes, appendices, index. Softbound. Cdn\$29.95.

In 1926, Clara Vyvyan and a friend, Gwendolen Dorrien Smith, traveled from England to Canada and then west to Edmonton, north down the Athabasca, Slave, and Mackenzie Rivers, west up the Rat River and over the Richardson Mountains to the Porcupine and Yukon rivers beyond, and finally to the Bering Sea, Seattle, and back to England. Thirty-five years later, Vyvyan published *Arctic Adventure*, an account of their trip. Now, after almost four more decades, comes *The Ladies, The Gwich'in, and the Rat*, whose core is a reprint of *Arctic Adventure*.

The Ladies, The Gwich'in, and the Rat contains a lengthy introduction, followed by the text of *Arctic Adventure* (accompanied by almost 60 black-and-white illustrations). Also included are eight watercolors by Gwendolen Dorrien Smith, two appendices (one contains Vyvyan's field notes, located in an unnamed English repository, and the other lists North American Plants collected by Smith), and end notes for both *Arctic Adventure* and the field notes.

In search of the wild and the sublime, confident from a trek in the Balkans, prepared by reading and correspondence, Vyvyan and Smith set off on their adventure in May 1926. The first few legs were a piece of cake: second class on the S.S. *Empress of Scotland* across the Atlantic (pleasant but for eastern European bodily and food smells); the train ride west to Winnipeg and Edmonton (memory of birds and breaking spring), and north to Waterways. Then

came adventure, beginning with the tight quarters and enforced sociability with a variety of people on steamers down the Athabasca, Slave, and Mackenzie Rivers. At Aklavik, where the two travelers stayed with Soeurs Grises for two weeks, the trial of an Inuit accused of murder was in progress. Vyvyan apparently accepted the judgement of one member of the RCMP that Inuit minds were "like the mind of a 12-year-old child" (p. 74). Many local characters and their heavy drinking also held the women's attention.

At Aklavik Vyvyan and Smith met their Gwich'in guides, Lazarus Sittichinli and Jim Koe, who would lead the way for them and push and pull their canoes up the swift, shallow Rat River to the Continental Divide. Neither woman had paddled a canoe before. The trip up the Rat was trying, the mosquitoes voracious, the muskeg clutching. The photographs of this section of the trip speak volumes. The guides were heroic in their struggles to get these two women to the Pacific drainage. On the Divide, the women experienced "ecstasy" (p. 135).

On the other side of the Divide, Lazarus and Jim shot a grizzly and devoured its meat—a "revolting scene," thought Vyvyan (p. 141)—and then left the two women, as prearranged. While Vyvyan gave grudging acknowledgement to their "faithfulness and labour," she also remarked that their wages—three pounds per day—had been too high (p. 142). On paddled Vyvyan and Smith to Old Crow and Rampart House and, with help here and there, to Fort Yukon. There Vyvyan happily buried herself in back issues of the *Atlantic Monthly* to await the arrival of the steamer that would take the ladies—by then a tourist curiosity—down the Yukon River to another steamer bound for Seattle. After a brief side trip from that city to climb in British Columbia, the intrepid ladies again took to the rails, this time eastward toward home. Their adventure had lasted more than five months.

This reprint of *Arctic Adventure* is handsomely produced. The editors have obviously taken considerable care with the manuscript. The photographs and watercolors enhance the publication greatly, as do the introduction, appendices, and endnotes. But why has *Arctic Adventure* been republished, other than as a labor of love? In a foreword we learn that the original has long been out of print. Furthermore, the editors find it "flawed" by an aggressive stylist and errors, and so in this version they have standardized capitalization and improved upon hyphenation and paragraphing.

But how important was *Arctic Adventure*? Many took the same route followed by the ladies, although few have written about it as fluidly as Vyvyan. Canoeing up the Rat River to the Divide was a marked accomplishment. (I know that country personally from a 1972 dog team trip with Fort McPherson Gwich'in in search of caribou in the spring, a much nicer season than summer to travel on the rivers and muskeg east of the Divide.) But many other currently inaccessible books detail the period 1910–40, and some provide more sharply etched characters or immediate memories or insight on Native people. Vyvyan